U.S. ARMY CORPS OF ENGINEERS JURISDICTIONAL DELINEATION

FOR THE

MONTEREY DYNASTY PROPERTY

SANTA CLARA COUNTY, CALIFORNIA

Prepared for:

Ms. Bethany Liou
c/o MH Engineering Co.
16075 Vineyard Blvd.
Morgan Hill, California 95037

Prepared by:

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulatory Consultants
3170 Crow Canyon Place, Suite 260
San Ramon, California 94583

Phone: (925) 866-2111 ~ FAX (925) 866-2126
Contact: Jeff Olberding

OCTOBER 2011

TABLE OF CONTENTS

TABLES

ATTACHMENTS

This report should be cited as: Olberding Environmental, Inc. September 2011. *U.S. Army Corps of Engineers Jurisdictional Delineation for the Monterey Dynasty Property, Santa Clara County, California*. Prepared for Ms. Bethany Liou, c/o MH Engineering Co., Morgan Hill, California.

SUMMARY

Olberding Environmental, Inc. (Olberding Environmental) conducted an investigation of the geographic extent of areas potentially subject to US Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act (wetlands and other waters) within the identified boundaries of the 9.74 acre Monterey Dynasty Property (APN #s 767-23-26, 767-23-27, and 767-23-28) (Property). The Property is located in the City of Morgan Hill, Santa Clara County, California.

On July 13 and August 29, 2011, field surveys were conducted for the purpose of identifying the extent of Corps jurisdictional areas within the survey boundaries of the Property. The Property was investigated in order to make a technical evaluation as to the extent of Corps jurisdiction based on current and historic land use conditions. Visual observations as to the presence or absence of indicators of wetland soil, vegetation and hydrology conditions were made during the investigation and recorded on a topographical map of the Property. The boundary of potential jurisdictional areas was further defined in accordance with the Corps regulations and the required methodology described in the 1987 "Corps Wetlands Delineation Manual."

Results of the jurisdictional delineation identified the presence of potentially regulated wetlands within the Property boundaries. A constructed wetland swale was identified in the center of the Property which functions to collect and transport stormwater runoff from adjacent commercial properties and residential neighborhoods to the north. The constructed wetland swale is eventually tributary to the Llagas Creek watershed, which flow to the Pajaro River. While the intended purpose of the constructed wetland swale is to convey stormwater runoff from the adjacent developed areas, the swale was observed to contain a bottom dominated by wetland vegetation. The presence of wetland vegetation results in the linear feature being identified as a potential wetland rather than a potential water.

Based on information obtained during the 2011 field surveys, it was determined that a total of **0.09** acres of potentially regulated wetlands exist on the Property. No other wetland or water features exist within the Property boundaries.

1.0 INTRODUCTION

1.1 Scope

Olberding Environmental, Inc. (Olberding Environmental) conducted an investigation of the geographic extent of areas potentially subject to US Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act (wetlands and other waters) within the identified boundaries of the Monterey Dynasty Property (Property). The placement of fill material in areas identified as jurisdictional waters is subject to the permit requirements of the Corps, under Section 404 of the Clean Water Act (1972).

On July 13 and August 29, 2011, field surveys were conducted for the purpose of identifying the extent of Corps jurisdiction on the Property. Visual observations as to the presence or absence of indicators of wetland soil, vegetation and hydrological conditions were made during the investigation. The boundaries of all potential wetland/water features observed were further defined in accordance with the Corps regulations and the required methodology described in the 1987 Corps Wetlands Delineation Manual (1987 Manual) and Arid West Supplement to the 1987 Manual (Arid West Supplement).

1.2 Location

The Property is located in the city limits of Morgan Hill in Santa Clara County, California (USGS Mount Madonna 7.5 minute quadrangle). Attachment 1, Figure 1 depicts the regional location of the Property in Santa Clara County and Figure 2 identifies the vicinity location. Figure 3 is a topographic map on the USGS 7.5 Quadrangle Map for Mount Madonna. An aerial photograph of the Property is provided in Figure 4.

Access to the Property is attained by taking Highway-101 South towards Los Angeles. Take exit 365 Tennant Avenue toward Morgan Hill. Turn Right (West) onto Tennant Avenue after the ramp then turn left on to Monterey Road. After 0.3 miles, the property can be seen on the right side. The parcel can partially be seen behind a couple large industrial buildings residing in a large parking lot area representing the Property and sitting southwest of the intersection of Vineyard Boulevard and Monterey Road.

1.3 Property Description

The 9.74 acre parcel (APN #s 767-23-26, 767-23-27, and 767-23-28) consists of open space, abandoned residence, and outbuildings associated with a former agriculture-residential development. The topography is nearly level throughout, bisected by a low-gradient swale. Elevation ranges from approximately 322 feet to 323 feet from north to south, respectively, and from 324 feet to 321 feet from west to east. The topographical variations of the site favor a drainage system towards the North to South. The on-site topography is relatively flat throughout the Property and gives way to agricultural fields to the southeast and residential and commercial buildings to the northeast, northwest and southwest.

The majority of the Property is surrounded by residential and commercial developments along the northwestern and northeastern boundaries; open space lies along the southeastern boundary, and open space associated with a recreational path forms the southwestern boundary. Land use to the immediate southeast of the Property consists of fallow agricultural fields that have been recently disced.

The majority of plant species observed on the Property are non-native and consist of vegetative assemblages associated with disturbance habitats. While some native shrub and tree species are present, the majority of woody vegetation consists of planted and/or naturalized species. Plant species observed during the July and August 2011 field delineation (including reference to recent taxonomic name changes in *The Jepson Manual 2*), can be viewed in Attachment 2.

2.0 METHODOLOGY

2.1 Overview

Olberding Environmental completed an initial field delineation of the Property on July 13, 2011, in association with biological and botanical surveys. A second field investigation was performed on August 29th to collect and verify information specific to the Corps delineation. The existing landforms as well as associated vegetation, hydrology, and soil conditions were studied to identify areas that would likely contain wetland/waters and or aquatic habitats at the site. Potential jurisdictional areas were identified on field maps and compared to available aerial photography and topographical maps.

Resource materials used for the site analysis were as follows:

- U. S. Geological Survey Quadrangle Map for Mount Madonna, California;
- Soil map information contained in the Soil Survey of Eastern Santa Clara Area, California (SCS 1974)

The extent or boundary of wetland habitats was further defined using the 1987 "Corps Wetlands Delineation Manual" (1987 Manual)[1], the "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region" (Arid West Supplement)[2], routine on-site wetland determination protocol currently in use by the Corps, published Corps of Engineers regulatory guidance letters, and San Francisco District regulatory policy.

[1] Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual." U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. plus appendices.

[2] Environmental Laboratory. 2006. "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region." U.S. Army Engineer Research and Development Center. Vicksburg, Mississippi. 123 pp.

2.2 Corps Definition of Wetlands/Waters

Pursuant to the 1987 Manual, key criteria for determining the presence of wetlands are:

(a) the presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by ground water or surface water; and

(b) a prevalence of vegetation typically adapted for life in saturated soil conditions (hydrophytic vegetation).

Explicit in the definition is the consideration of three environmental parameters: hydrology, soil, and vegetation. Positive wetland indicators of all three parameters are normally present in wetlands. The assessment of all three parameters enhances the technical accuracy, consistency, and credibility of wetland determination and is required per the1987 Corps Manual.

Aquatic habitats, other than wetlands, that are considered to be waters of the United States were also investigated as part of this study. Their landward extent was defined following the definitions provided in the Corps of Engineers regulations [33 CFR §328.4(a)(b) and (c)]:

(a) *Territorial Seas*. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles.

(b) *Tidal Waters of the United States*. The landward limits of jurisdiction in tidal waters:

(1) Extends to the high tide line, or
(2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in (c) below.

(c) *Non-Tidal Waters of the United States*. The limits of jurisdiction in non-tidal waters:

(1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
(2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
(3) When the water of the United States consists only of wetlands, the jurisdiction extends to the limit of the wetlands.

Tributary waters and their impoundments are under the regulatory jurisdiction of the Corps and extend to the OHW mark on opposing channel banks. Tributary waters include rivers, streams and seasonal drainage channels. The OHW mark is typically indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in character of soil, destruction of vegetation, exposed roots on the bank, deposition of leaf litter and other debris materials or lower limit of moss growth on channel banks.

Areas meeting the regulatory definition of "Waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the Corps. The Corps under provisions of Section 404 of the

Clean Water Act (1972) has jurisdiction over "Waters of the U.S." These waters may include all waters used or potentially used for interstate commerce. This includes all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U. S.," tributaries of waters otherwise defined as "Waters of the U. S.," the territorial seas, and wetlands adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3).

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions with no outlet for drainage (33 CFR, Part 328).

2.3 Data Collection for Potential Jurisdictional Wetlands/Waters

Data was collected for the determination of wetlands/waters on July 13 and August 29, 2011 as outlined in the methods section. Specific data point information on vegetation, soils and hydrology was gathered by wetland scientist Mr. Christopher Bronny, with field assistance provide by Mr. Josh Goodwin. The purpose of this investigation was to identify and delineate potential jurisdictional waters, including wetlands. Surveys were conducted within and adjacent to the specified survey boundaries. The Property was examined for topographic features, drainages, alterations to site hydrology and areas of recent disturbance in the refined survey area. All vascular plant species that were identifiable at the time of the survey were recorded and identified using keys and descriptions in Hickman (1993) (see Attachment 2).

The habitat types occurring in the Property were characterized according to pre-established categories. In classifying the habitat types on the site, the generalized plant community classification schemes of *A Manual of California Vegetation* (Sawyer, Keeler-Wolf and Evens 2009) were consulted. The final classification and characterization of the habitat types of the Property were based on field observations.

Data was collected on vegetation, soils, and hydrology using wetland determination protocol as described in the 1987 Manual. Both upland and wetland data were collected to distinguish wetland boundaries from the adjacent upland. On paired transects, a sample point was sited in an area exhibiting wetland characteristics, while a second sample point was sited up slope of the first point in an upland position that defined the transitional break (i.e., ecotone) between wetland and upland. GPS coordinates of each sample location were recorded in the field using a Trimble GEO XT.

A total of four transect sample points were established on two transect lines within the boundaries of the Property. All upland positions are distinguished by “A” and the wetland positions “B.”

The approximate location and extent of jurisdictional wetlands/waters as well as other relevant data, were transferred on to a 1”= 50’ scale topographical map of the surveyed area in the field. Information obtained at the sample point locations was recorded on modified Corps data sheets

included in this report (Attachment 3). Photographs were also taken for selected sample points that represented the Property (Attachment 4).

3.0 TECHNICAL FINDINGS

The following discussion reports the vegetation, hydrology, and soil conditions observed at the Property during the course of the investigation.

3.1 Vegetation Conditions

The 1987 Manual states that the diagnostic environmental characteristics indicating wetland vegetation conditions are met when the prevalent vegetation (more than 50%) consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions described above. In addition, hydrophytic species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Indicators of vegetation associated with wetlands include:

1. more than 50% of the dominant species are rated as Obligate ("OBL"), Facultative Wet ("FACW") or Facultative ("FAC") on lists of plant species that occur in wetlands;[3]

2. visual observations of plant species growing in areas of prolonged inundation or soil saturation; and

3. reports in the technical literature indicating the prevalent vegetation is commonly found in saturated soils" (1987 Manual).

In addition, hydrophytic indicators are applied to plant communities using the Arid West Supplement (December, 2006) in the following sequence:

1. Apply the dominance test – more than 50% of the dominant species are rated as OBL, FACW, or FAC on lists of plant species that occur in wetlands.

    a. If the plant community passes the dominance test, then the vegetation is hydrophytic and no further vegetation analysis is required.
    b. If the plant community fails the dominance test, but indicators of hydric soil and wetland hydrology are both present, proceed to step 2.

[3] Reed, P.B. 1988. National List of Plant Species That Occur in Wetlands: California (Region 0). Biological Report 88(26.10) May 1988. National Ecology Research Center, National Wetlands Inventory, U.S. Fish and Wildlife Service, St. Petersburg, FL.

2. Apply the prevalence index – a weighted average wetland indicator status of all plant species (OBL=1, FACW=2, FAC=3, FACU=4, UPL=5). Weighting is by abundance (percent cover). A hydrophytic plant community will result in a prevalence index of 3.0 or less.

    a. If the plant community satisfies the prevalence index, then the vegetation is hydrophytic. No further vegetation analysis is required.
    b. If plant community fails prevalence index, proceed to step 3.

3. Apply morphological adaptations – morphological features which help plants survive prolonged inundation or saturation in the root zone, must occur on more than 50% of the FACU species living in an area where indicators of hydric soil and wetland hydrology are present.

Table 1 contains the wetland plant indicator status categories used to determine if a particular plant species qualifies as a macrophyte which has adapted to areas having hydrologic and soil conditions.

It is important to note that, although there is a high probability that one would expect to find obligate, facultative wet and facultative plants growing in wetlands, there is also a significant possibility that the obligate, facultative wet, and facultative species will occur in areas that do not exhibit wetland soil and/or wetland hydrology conditions.

Table 1
Wetland Plant Indicator Status Categories

Indicator Category	Symbol	Frequency of Occurrence
OBLIGATE	OBL	greater than 99%
FACULTATIVE WETLAND	FACW	67 - 99%
FACULTATIVE	FAC	34 - 66%
FACULTATIVE UPLAND	FACU	1 - 33%
UPLAND	UPL	less than 1%

***** Based upon information contained in Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987).

The Property is located in the *San Francisco Bay Area Subregion* of the greater *Central Western California Subdivision* of the California Floristic Province (Hickman 1993). In classifying the habitat types found in the Property, generalized plant community classification schema were used (Sawyer, Keeler-Wolf, and Evens 2009). The final classification and characterization of the habitat types of the Property were based on field observations.

The Property supports three habitat types: ruderal (i.e., disturbance), swale, and landscape plantings. Although there are some adventive trees and shrubs identified in this report, the majority of introduced trees, shrubs, and cultivars associated with the landscape plantings around the former residence do not support any potential wetland features and are not addressed further in this report. The remaining two habitats are described in further detail below. A description of the plant species present within each habitat type is provided below, along with their wetland indicator status. Dominant plant species are noted.

3.1.1 Ruderal

Ruderal habitats consist of largely naturalized vegetative assemblages of annual and biennial grasses and broad-leaved plants. With the exception of the area around the former residence, the majority of the Property has been disced for weed abatement, resulting in this habitat type. Dominant and co-dominant plants observed included chicory (*Cichorium intybus*-UPL), yellow star-thistle (*Centaurea solstitialis*-UPL), black mustard (*Brassica nigra*-UPL), wild radish (*Raphanus sativus*-UPL), prickly lettuce (*Lactuca serriola*-FAC), bitter lettuce (*Lactuca virosa*-UPL), and wild oat (*Avena fatua*-UPL). Other common species observed included English plantain (*Plantago lanceolata*-FAC), hoary cress (*Cardaria draba*-UPL), red-stem filaree (*Erodium cicutarium*-UPL), and annual fireweed (*Epilobium brachycarpum*-UPL).

Native and naturalized adventive trees and shrubs were infrequent and included coast live oak (*Quercus agrifolia*-UPL), valley oak (*Quercus lobata*-FAC), walnut (*Juglans* sp.-FAC), firethorn (*Pyracantha* sp.-UPL), and coyote brush (*Baccharis pilularis*-UPL).

3.1.2 Swale

While the majority of this low-gradient feature contains a mix of upland and hydrophytic species, hydrophytes generally provide a greater percent cover. Dominant and co-dominant species observed included chicory, wild radish, English plantain, field bindweed (*Convolvulus arvensis*-UPL), perennial ryegrass (*Festuca* [*Lolium multiflorum*] *perennis*-FAC), curly dock (*Rumex crispus*-FACW), and cocklebur (*Xanthium strumarium*-FAC).

Some portions of the grassy swale were slightly deeper, allowing for a longer hydroperiod to occur during the rainy season, resulting in the establishment of some isolated stands of obligate (OBL) and facultative wetland (FACW) hydrophytes including California tule (*Schoenoplectus californicus*), Baltic rush (*Juncus balticus*), and tall flatsedge (*Cyperus eragrostis*).

3.2 Hydrology Conditions

The 1987 Manual states that the diagnostic environmental characteristics indicative of wetland hydrology conditions are: “the area is inundated either permanently or periodically at mean water depths less than or equal to 6.6 feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation” (1987 Manual, p. 14). According to the Manual, indicators of hydrologic conditions that occur in wetlands may include features in Table 2.

Table 2 Hydrology Indicators	
Primary Indicators	**Secondary Indicators**
Inundation, Saturation	Oxidized Rhizospheres Associated with Living Roots
Watermarks	Water-Stained Leaves
Drift Lines	FAC-Neutral Test
Water-Borne Sediment Deposits	Local Soil Survey Data
Drainage Patterns Within Wetlands (With Caution)	

Department of the Army, U.S. Army Corps of Engineers, Washington, D.C., *Memorandum - Subject: Clarification and Interpretation of the 1987 Manual*, dated June 8, 1992 provides further clarification that:

> "Areas which are seasonally inundated and/or saturated to the surface for a consecutive number of days for more than 12.5 percent of the growing season are wetlands, provided the soil and vegetation parameters are met. Areas wet between 5 percent and 12.5 percent of the growing season in most years (see Table 5, page 36 of the 1987 Manual) may or may not be wetlands. Areas saturated to the surface for less than 5 percent of the growing season are non-wetlands. Wetland hydrology exists if field indicators are present as described herein and in the enclosed data sheet."

The presence of wetland hydrology using the Arid West Supplement (December, 2006) is dependent on the presence of any one primary indicator or two or more secondary indicators included in Table 3.

Table 3 Arid West Region - Hydrology Indicators	
Primary Indicators	**Secondary Indicators**
Surface Water	Water Marks (riverine)
High Water Table	Sediment Deposits (riverine)
Saturation	Drift Deposits (riverine)
Water Marks (nonriverine)	Drainage Patterns
Sediment Deposits (nonriverine)	Dry-Season Water Table
Drift Deposits (nonriverine)	Thin Muck Surface
Surface Soil Cracks	Crayfish Burrows
Inundation Visible on Aerial Imagery	Saturation Visible on Aerial Imagery
Water-Stained Leaves	Shallow Aquitard
Salt Crust	FAC-Neutral Test
Biotic Crust	
Aquatic Invertebrates	
Hydrogen Sulfide Odor	
Oxidized Rhizospheres along Living Roots	
Presence of Reduced Iron	
Recent Iron Reduction in Plowed Soils	

The wetland locations investigated on the Property exhibited hydrologic indicators such as sediment deposits and drainage patterns. Hydrologic inputs included direct precipitation and sheetflow runoff from surrounding uplands (on- and off-site).

Weather conditions observed during the July 13, 2011 field delineation were cloudy, with temperatures around 65° F. Precipitation totals thus far for the 2010-2011 rainy season have been above-average.

3.3 Soils Conditions

The Corps' 1987 Manual states that the diagnostic environmental characteristics indicative of wetland soil conditions are met where "soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions" (1987 Manual, p. 14). According to the Manual, indicators of soils developed under reducing conditions may include:

1. Organic soils (Histosols);
2. Histic epipedons;
3. Sulfidic material;
4. Aquic or peraquic moisture regime;
5. Reducing soil conditions;
6. Soil colors (chroma of 2 or less);
7. Soil appearing on hydric soils list; and
8. Iron and manganese concretions.

According to the most recent version of the National Technical Committee for Hydric Soils, the criteria to be used by the Corps for what constitutes current hydric soil/wetland soil conditions for the soils found at the site are:

1. Minimum Saturation at 12" to the surface: 14 consecutive days during the growing season.

2. Minimum Inundation (Flooded or Ponded): Soils that are frequently "ponded" for long duration (~ 15 to 30 consecutive days) or very long duration (> 30 consecutive days) during the growing season, or soils that are frequently "flooded" for long duration or very long duration during the growing season.

According to the Arid West Supplement (December 2006), indicators for hydric soils are presented in three groups. Indicators for "all soils" (A) are used in any soil regardless of texture. Indicators for "sandy soils" (S) are used in soil layers with USDA textures of loamy fine sand or coarser. Indicators for "loamy or clayey soils" (F) are used with soil layers of loamy very fine sand and finer (2006 Arid West Supplement, p.32). Hydric soils can be identified by the following indicators:

1. Histosol (A)
2. Histic Epipedon (A)
3. Black Histic (A)
4. Hydrogen Sulfide (A)
5. Stratified Layers (A)
6. 1 cm Muck (A)
7. Depleted Below Dark Surface (A)
8. Thick Dark Surface (A)
9. Sandy Mucky Mineral (S)
10. Sandy Gleyed Matrix (S)
11. Sandy Redox (S)
12. Stripped Matrix (S)
13. Loamy Mucky Mineral (F)
14. Loamy Gleyed Matrix (F)
15. Depleted Matrix (F)
16. Redox Dark Surface (F)
17. Depleted Dark Surface (F)
18. Redox Depressions (F)
19. Vernal Pools (F)

Where possible, the top 12 inches of the soil profile is examined for hydric characteristics. Such characteristics include the presence of organic soils (Histisols), histic epipedons, aquic or peraquic moisture regime, presence of soil on hydric soil list, mottling indicated by the presence of gleyed or bright spots of color within the soil horizons observed. Mottling of soils usually indicates poor aeration and lack of good drainage. A Munsell soil color charts (Kollmorgen Instr. Corp. 1990) were reviewed to obtain the soil color matrix for each soil sample. The last digit of the Munsell Soil Notation refers to the chroma of the sample. This notation consists of

numbers beginning with zero (0) for neutral grays and increasing at equal intervals to a maximum of about 20. Chroma values of the soil matrix which are one (1) or less, or of two (2) or less when mottling is present, are typical of soils which have developed under anaerobic conditions.

In sandy soils, such as alluvial deposits in the bottom of drainage channels, hydric soil indicators include high organic matter content in the surface horizon and streaking of subsurface horizons by organic matter.

3.3.1 Soil Analysis at Property

The USDA Natural Resources Conservation Service (formerly the Soil Conservation Service) mapped two soil types within the Property: San Ysidro loam, 0 to 2 percent slopes and Arbuckle gravelly loam, 0 to 2 percent slopes (NRCS 2011). While Arbuckle gravelly loam makes up only a small fraction of the soils on the Property at the northeast corner, the majority of the Property is dominated by San Ysidro loam. Soils were generally friable clay loams throughout the Property. Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anoxic conditions in the upper part. Neither soil found on the Property is considered hydric.

A detailed map of these soils for the Property can be found in Attachment 1, Figure 6. A detailed description of both soil types can be found in Attachment 5. The numbers in parentheses next to the soil types represent the percentage amount on the Property. The soils mapped included the following types:

- **SdA: San Ysidro loam, 0 to 2 percent slopes (99.2%) –** The San Ysidro series consists of deep, moderately well drained soils that formed in alluvium from sedimentary rocks. San Ysidro soils are on old, low terraces and have slopes of 0 to 9 percent at elevations of less than 1,500 feet. The composition of this soil type within the Property consists of 85 percent San Ysidro and similar soils and 11 percent of minor components including Unnamed (5%), Arbuckle gravelly loam (3%), and Pleasanton loam (3%).

  Typically, San Ysidro soils exhibit slow to medium runoff and very slow permeability. These soils are used for growing dryland grains, dryland pasture, and shallow rooted row crops, and pasture under irrigation. Uncultivated areas have a cover of annual grasses and forbs. Its stratified layers consist of the following (colors are for dry soil unless otherwise stated):

  Ap--0 to 7 inches; light brownish gray fine sandy loam, dark brown moist; hard, friable, nonsticky; slightly acid (pH 6.5).

  A--7 to 14 inches; light brownish gray fine sandy loam, dark brown moist; hard, friable, nonsticky; medium acid (pH 6.0).

  Bt1--14 to 28 inches; dark yellowish brown clay, dark brown moist; extremely hard and sticky; slightly acid (pH 6.5).

Bt2--28 to 40 inches; yellowish brown sandy clay loam, dark yellowish brown moist; extremely hard and sticky; neutral (pH 7.0).

C1--40 to 54 inches; yellowish brown light sandy clay loam, dark yellowish brown moist; extremely hard and sticky; neutral (pH 7.0).

C2--54 to 68 inches; yellowish brown light clay loam, dark yellowish brown moist; hard and sticky; moderately alkaline (pH 8.0).

A total of four soil pits were dug by shovel to a maximum depth of 12 inches at locations representative of various hydrogeomorphic surface conditions along the swale within the Property (Attachment 1, Figure 5).

Soils found in the upland positions exhibited the following moist soil matrix colors: 10YR2/2 and 10YR4/4, generally with silty and sandy clay loam textures; in some soil pits, redoximorphic (redox) conditions (e.g., mottles) were absent.

Soils found in the mapped wetland position exhibited the following moist soil matrix colors: 10YR2/2 and 10YR3/6, generally with clay and sandy clay loam textures. Mottles were observed in both soil test pits and included the following moist colors: 10YR3/6 and 10YR4/6; mottles were few and faint.

4.0 AREAS POTENTIALLY SUBJECT TO REGULATION BY THE CORPS OF ENGINEERS

The EPA and Corps regulations define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (40 C.F.R. §230.3(t); 33 C.F.R. §328.3(b)).

The term "waters of the United States" are defined in 40 C.F.R. §328.3(a) as:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
(iii) Which are used or could be used for industrial purpose by industries in interstate commerce.

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs [1-4] of this section;

(6) The territorial sea; and

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs [1-6] of this section (40 CFR §230.3(s); 33 CFR §328.3(a)).

Based on information obtained during the field delineation, it was determined that a total of 0.09-acre of jurisdictional wetlands (i.e., the single swale feature) are present within the boundaries of the Property (see Attachment 1, Figure 5).

4.1 Potential Wetlands

The single mapped grassy swale would be considered a potentially jurisdictional wetland, as there was no defined bed, bank, or channel. While some upland species were present within the sample area, the absolute percent cover favored dominance by hydrophytes. While this feature historically was part of a greater upstream microwatershed, the development of a residential development has resulted in the truncation of hydrologic inputs from upstream sources, resulting in marginal conveyance of surface flows, with those only likely during high precipitation events during the rainy season.

Soils below the surface often had inclusions of gravel and other fill debris, collecting along the lowest portion of the swale. Past discing along the edges of this feature has also resulted in a disturbed soil profile in some portions. While generally few and faint, evidence of hydric soil indicators (i.e., reducing conditions) in the form of mottles were present in soil samples. Hydrologic indicators included the presence of sediment deposits, biotic crust, and drainage patterns.

Table 4
Potentially Jurisdictional Wetlands

Type of Feature	Acreage
Swale	0.09
TOTAL	**0.09**

4.2 Potential Other Waters

No jurisdictional "other waters" were found on the Property. The constructed swale is representative of a wetland feature having no defined bed or bank. There is no line of scour and an absence of an ordinary high water mark. The entire swale is vegetation with hydrophitic species and is therefore recognized as a potentially jurisdictional wetland.

4.3 Section 10 Navigable Waters

The drainage swale was determined not to meet the parameters to be delineated as navigable water.

5.0 AREAS POTENTIALLY EXCLUDED FROM REGULATION UNDER SECTION 404

5.1 Discretionary Exemptions[4]

A number of exemptions from Section 404 Clean Water Act regulations exist for waters of the United States. These exemptions fall into two basic categories: (1) discretionary and (2) non-discretionary.

According to the preamble discussion of the Corps regulations in the November 19, 1986 *Federal Register*, certain areas which may meet the technical definition of a wetland are generally not regulated. Such areas include:

(a) Non-tidal drainage and irrigation ditches excavated on dryland.

(b) Artificially irrigated areas which would revert to upland if the irrigation ceased.

(c) Artificial lakes or ponds created by excavating and/or diking dryland to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.

(d) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dryland to retain water for primarily aesthetic reasons.

(e) Water filled depressions created in dryland incidental to construction activity and pits excavated in dryland for the purpose of obtaining fill, sand, or gravel unless and until the

---

[4] Fed. Reg. 41206, 41217 (Nov. 13, 1986). It should be noted that the Corps reserves the right on a case-by-case basis to determine that a particular waterbody within these categories of waters is a water of the United States. EPA also has the right, in those instances where it is the agency making the jurisdictional determination, to decide on a case-by-case basis if any of these waters are waters of the United States. However, the preamble discussion of EPA's regulations indicates that EPA, like the Corps, does not generally consider areas such as those described above to be waters of the United States. See 53 Fed. Reg. 20764, 20765 (June 6, 1988).

construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).

5.2 Application of Discretionary Exemptions

No portions of the Property were determined to meet the parameters of discretionary exemptions.

5.3 Isolated Waters

The U.S. Supreme Court has ruled that isolated, non-navigable wetlands and other waters are not subject to federal regulation even if they provide habitat for migratory birds and endangered species. Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (hereinafter SWANCC) (No. 99-1178). The Corps has attempted to define isolated as "not having hydrological connectivity to other jurisdictional features." Based on this determination, the Court has eliminated the need to secure fill permits from the Corps under Section 404 of the Clean Water Act when isolated wetlands are encountered. Nevertheless, the decision is by no means a blanket repeal of Section 404. Every landowner's on-the-ground situation is unique, and must be analyzed individually. In the aftermath of this decision, each landowner must still carefully assess its situation to determine whether its survey area contains features which qualify as "waters of the U.S." It is therefore recommended that a jurisdictional delineation be verified by the Corps rather than making an assumption regarding the potential regulation of a specific wetland/water feature.

The RWQCB has indicated that they intend to continue regulation of isolated wetlands under the Porter-Cologne Act (Water Code Section 13260). Their interpretation of the Court ruling indicates that the SWANCC decision has no bearing on the RWQCB's regulation of "waters of the state" and as such they will continue to issue waste discharge requirements (WDRs) in lieu of a Section 401 Certification which is required when the Corps issues a Section 404 permit.

5.4 Application of Isolated Waters Exemptions

The single mapped swale does not likely qualify as an isolated wetland on the Property.

5.5 Significant Nexus

The geographic extent of jurisdiction under the Clean Water Act was further refined based on the U.S. Supreme Court's interpretation of the Act in Rapanos v. United States, 126 S. Ct. 2208 (2006) (Rapanos Case). In the EPA and Corps joint guidance of the Rapanos Case, issued in December of 2008, it was determined that the Corps generally will not assert jurisdiction over (1) swales or erosional features (e.g. gullies, small washes characterized by low volume, infrequent, or short duration flow) and (2) ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water. Non-navigable tributaries that are not relatively permanent and wetlands adjacent to such tributaries will be assessed on a case-by-case basis to determine whether they have a "significant nexus" to a traditional navigable water. A "significant-nexus" will be determined through assessment of the flow characteristics and functions of the tributary itself and the functions performed by all

wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters.

According to the guidance, the Corps will continue to assert jurisdiction over traditional navigable waters; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and wetlands that directly abut such tributaries.

5.6 Application of Significant Nexus

This feature does not appear as an intermittent blue line feature on the 7.5' USGS topo quad map for Mount Madonna, but it does appear to be hydrologically connected as part of the Llagas Creek watershed, which is connected to the Pajaro River. A significant nexus would apply.

6.0 CONCLUSIONS

Results of the field delineation conducted by Olberding Environmental on July 13 and August 29, 2011 identified the presence of regulated waters of the U.S. within the Property. The total preliminary Corps jurisdictional acreage of the mapped wetland swale on the Property is 0.09 acre.

7.0 REFERENCES

Code of Federal Regulation. Title 33 Part 328 "Navigation and Navigable Waters." U.S. Government Printing Office, Washington, D.C.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, Office of Biological Services. Washington, D.C. Publ. No. FWS/OBS-79/31. 107 pp.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U. S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. plus appendices.

Environmental Laboratory. 2006. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Technical Report 06-16. U.S. Army Engineers Research and Development Center, Vicksburg, Mississippi. 123 pp.

Federal Interagency Committee for Wetland Delineation. 1989. *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication. 76 pp. plus appendices.

Federal Register. 1980. 13 November. Regulatory Programs of the Corps of Engineers, Vol. 51, No. 219, pp. 41206-41250. U.S. Government Printing Office, Washington, D.C.

Hickman, James C., Ed. 1993. The Jepson Manual, Higher Plants of California. University of California Press. Berkeley, CA. 1400 pp.

Holland, R. F., 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento, CA. 156 pp.

Kollmorgen Instruments Corporation. 1975. Munsell soil color charts, revised edition (1990). Macbeth Division of Kollmorgan Instruments Corporation, Baltimore, Maryland.National Technical Committee for Hydric Soils [NTCHS]. 1991. Hydric Soils of the United States, USDA, Soil Conservation Service Misc. Publ. 1491.

Reed, P.B. 1988. National List of Plant Species that Occur in Wetlands: California (Region O). Biological Report 88(26.10) May 1988. National Ecology Research Center, National Wetlands Inventory, U.S. Fish and Wildlife Service, St. Petersburg, Fl.

Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. A manual of California vegetation. 2nd Ed. California Native Plant Society, Sacramento, Ca.

U.S. Army Corps of Engineers. August 1986. *Clarification of "Normal Circumstances" in the Wetland Definition*. Regulatory Guidance Letter No. 86-9. 33 CFR 323.2(c).

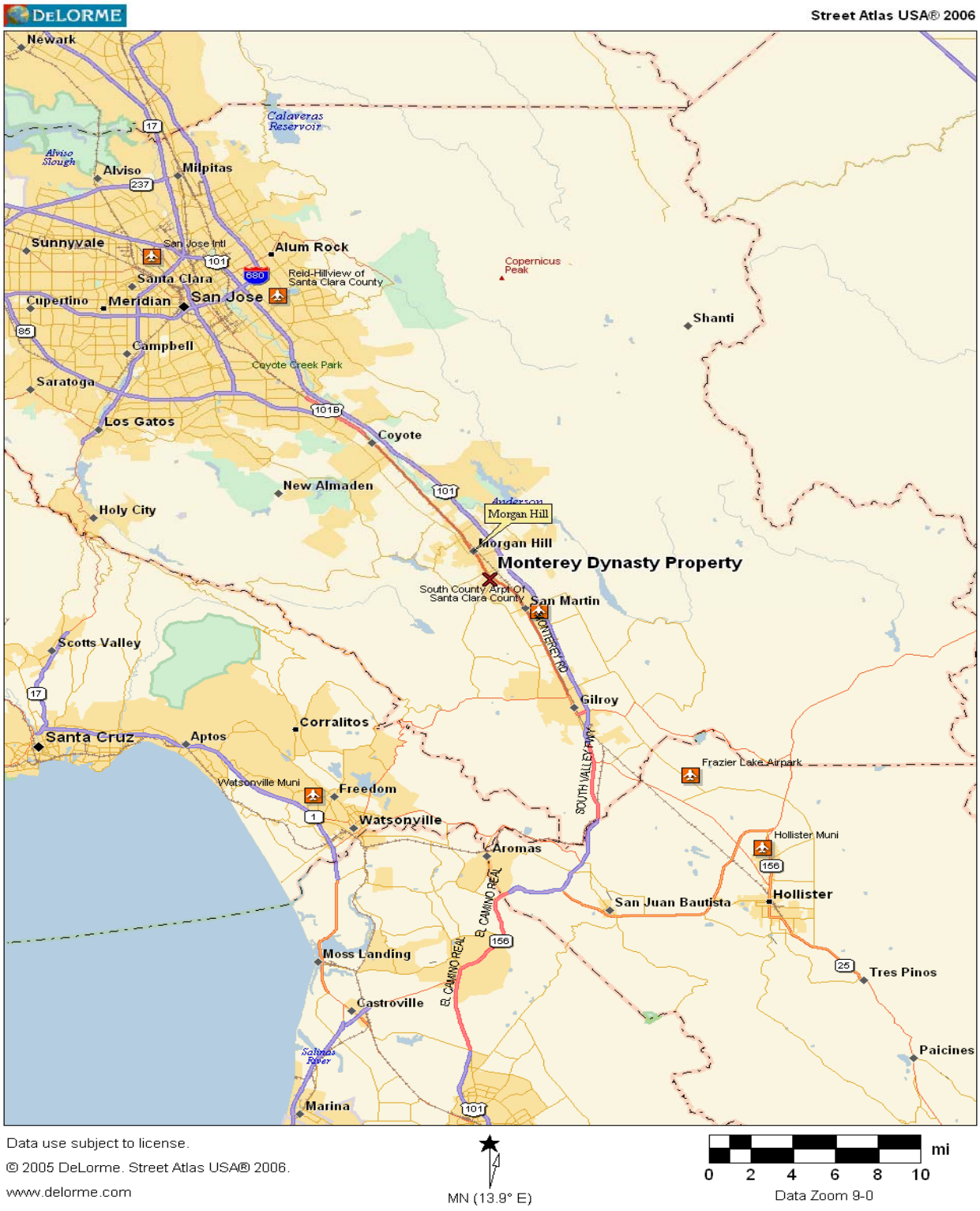
U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), Web Soil Survey: 1977. Soil Survey of Santa Clara County, California. Accessed March 22, 2011. Available on-line at http://websoilsurvey.nrcs.usda.gov.

U.S. Department of Agriculture, Natural Resources Conservation Service; California Hydric Soils List, Santa Clara County electronic document: http://soils.usda.gov/use/hydric/lists/state.html.

ATTACHMENTS

ATTACHMENT 1
FIGURES

Figure 1
Regional Map

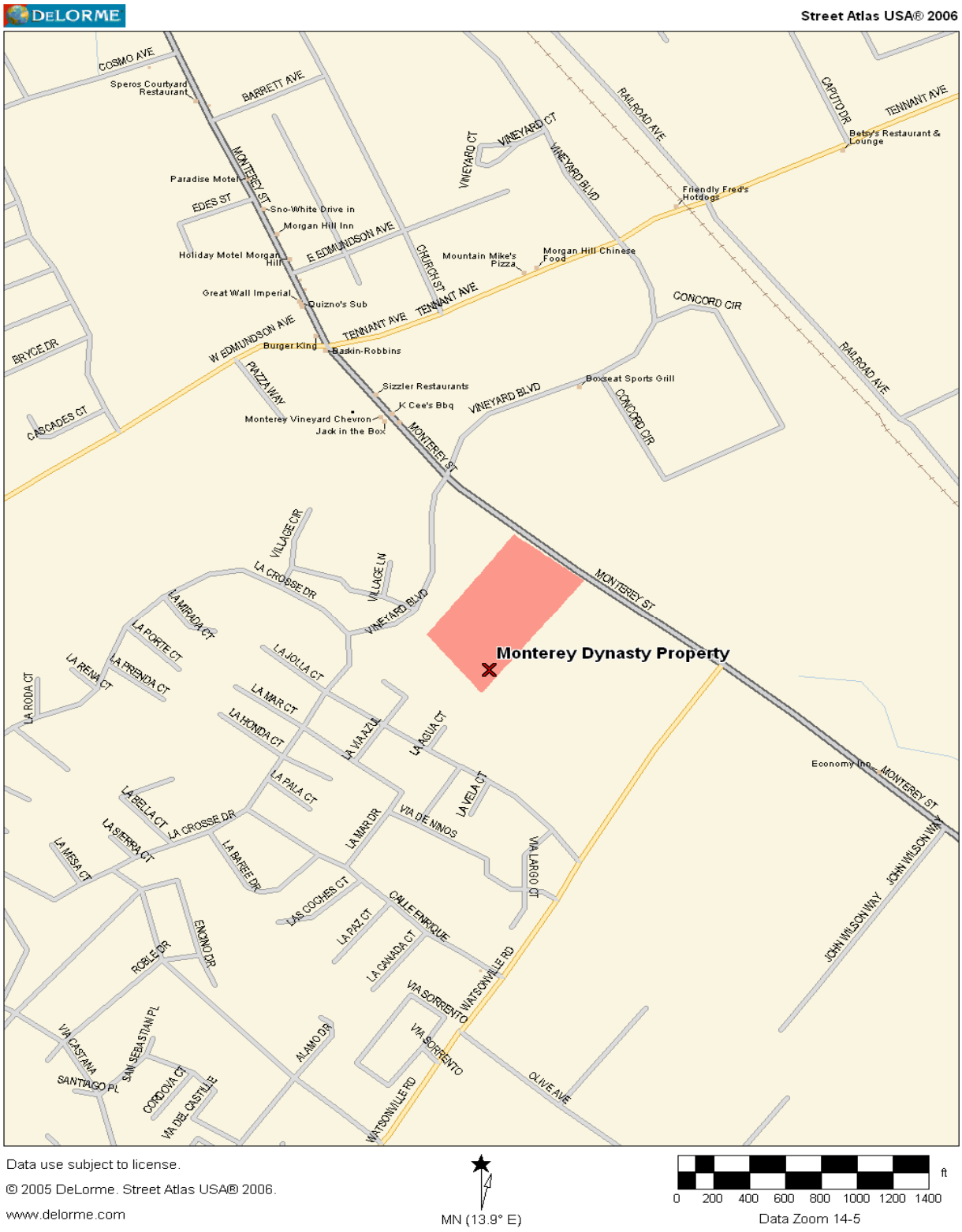


Olberding Environmental, Inc.
3170 Crow Canyon Place, Suite 260
San Ramon, California 94583
Phone: (925) 866-2111

This document is not intended for detail design work.

Figure 1
Regional Map of the Monterey Dynasty Property
Santa Clara County, California

Figure 2
Vicinity Map

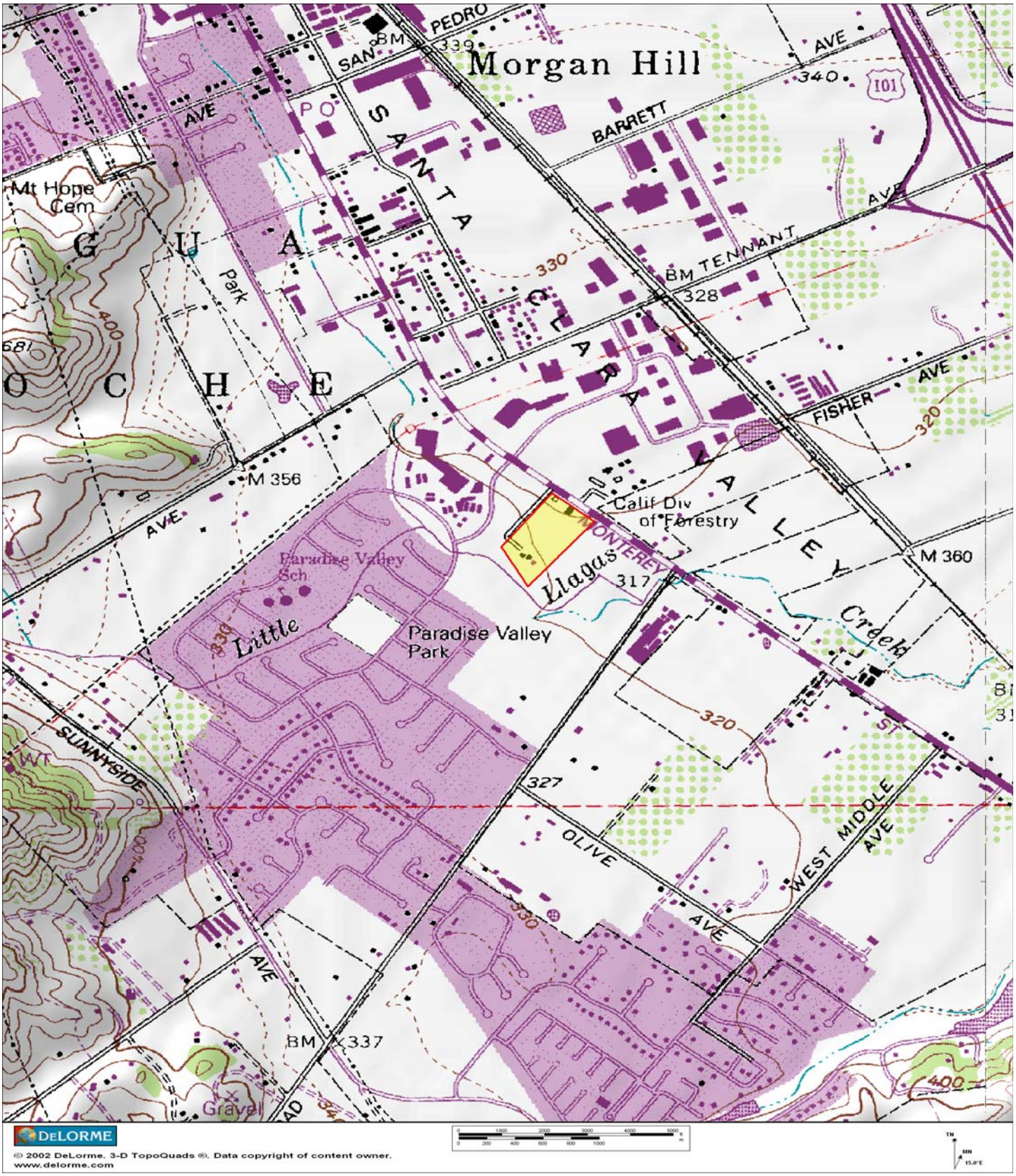


Olberding Environmental, Inc.
3170 Crow Canyon Place, Suite 260
San Ramon, California 94583
Phone: (925) 866-2111

This document is not intended for detail design work.

Figure 2
Vicinity Map of the Monterey Dynasty Property
Santa Clara County, California

Figure 3
USGS Quadrangle Map for Mount Madonna



Olberding Environmental, Inc.
3170 Crow Canyon Place, Suite 260
San Ramon, California 94583
Phone: (925) 866-2111

This document is not intended for detail design work.

Figure 3
USGS Quadrangle Map of the Monterey Dynasty Property
Mt. Madonna Quadrangle
Santa Clara County, California

Figure 4
Aerial Photograph

Olberding Environmental, Inc.
3170 Crow Canyon Place, Suite 260
San Ramon, California 94583
Phone: (925) 866-2111

This document is not intended for detail design work.

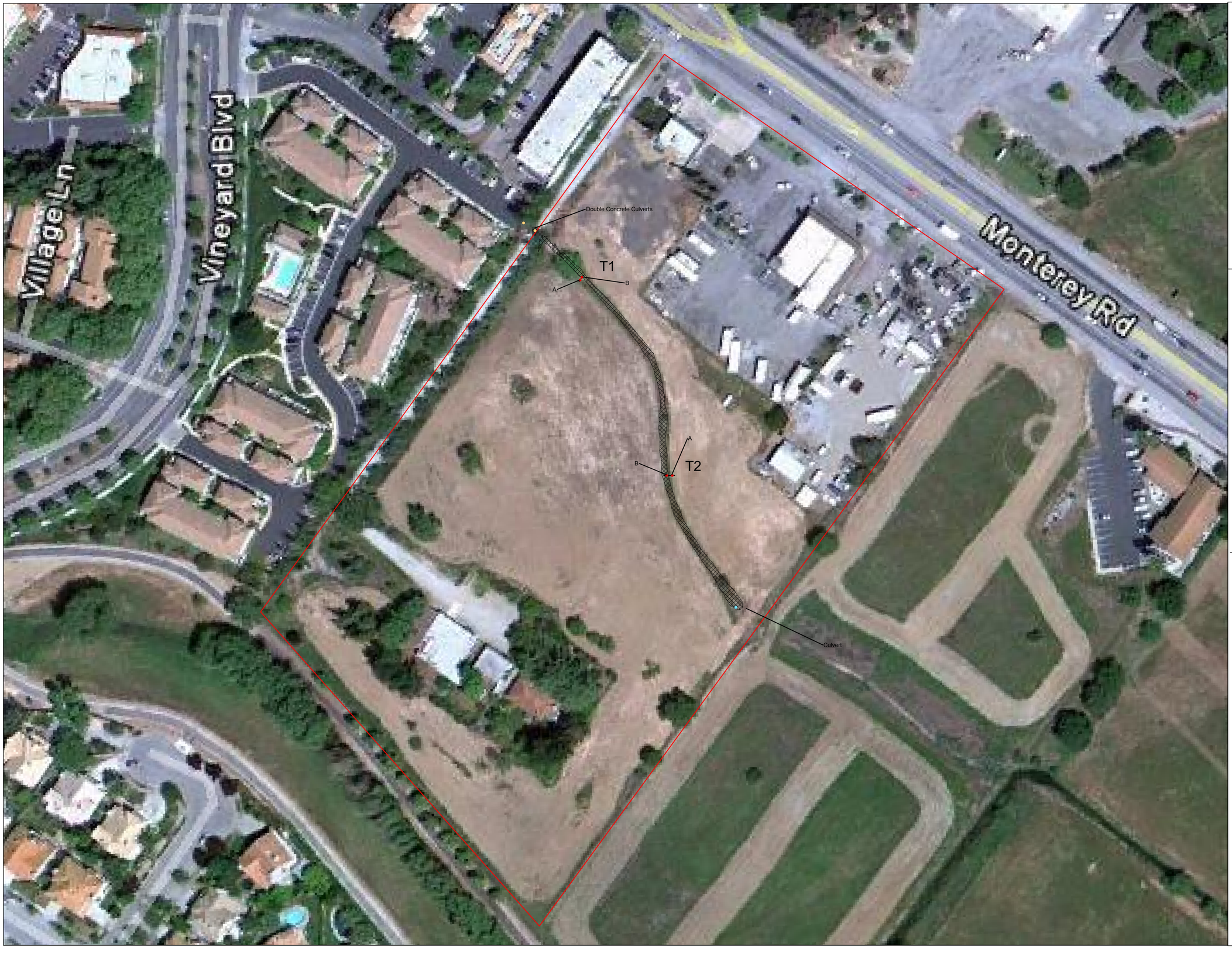
Figure 4
Aerial Photo of the Monterey Dynasty Property
Santa Clara County, California

Figure 5
Corps Delineation Map

Figure 5
Monterey Dynasty Survey Area

Santa Clara County
California

Olberding Environmental, Inc.
3170 Crow Canyon Place, Suite 260
San Ramon, California 94583
Phone: (925) 866-2111



Survey Boundary

Swale

Data Point

transect

Jurisdictional Wetlands

Swale (0.09 acre)

1 inch = 50 feet

0 45 90 180 Feet

N

Image Source: NAIP 2009
Image Date: 2009
Map Date: July 20, 2011
Field Delineation conducted on July ??, 2011
by Mr. Christopher Bronny.

Figure 6
Soils Map

Map Unit Symbol	**Percentage Within Property**	**Map Unit Name**
SdA	100 %	San Ysidro loam, 0 – 2% slopes

Olberding Environmental, Inc.
3170 Crow Canyon Place, Suite 260
San Ramon, California 94583
Phone: (925) 866-2111

This document is not intended for detail design work.

Figure 6
Soils Map of the Monterey Dynasty Property
Santa Clara County, California

ATTACHMENT 2
PLANT LIST

Project: Monterey Dynasty Property, Morgan Hill, Santa Clara Co. CA
Dates: 7/13/2011 and 8/29/2011
Investigators: Mr. Christopher Bronny, Mr. Josh Goodwin
*denotes naturalized species
[ ] denotes recent taxonomic name changes (TJM2)

Family	Scientific Name	Common Name	
Section - Gymnosperms			
Section - Eudicots			
Amaranthaceae	*Amaranthus albus**	Tumbleweed	
Asteraceae	*Abutilon theophrasti**	Velvetleaf	
	*Anthemis cotula**	Mayweed	
	Baccharis pilularis	Coyote brush	
	*Carduus pycnocephalus**	Italian thistle	
	*Centaurea solstitialis**	Yellow star-thistle	
	*Cichorium intybus**	Chicory	
	*Conyza bonariensis**	Asthmaweed	
	Epilobium brachycarpum	Annual fireweed	
	Grindelia sp.	Gumweed	
	*Lactuca serriola**	Prickly lettuce	
	*Lactuca virosa**	Bitter lettuce	
	*Picris echioides**	Bristly ox-tongue	
	*Sonchus oleraceus**	Common sow-thistle	
	*Tragopogon porrifolius**	Salsify	
	Xanthium strumarium	Cocklebur	
Brassicaceae	*Brassica nigra**	Black mustard	
	*Raphanus sativus**	Wild radish	
Chenopodiaceae	*Chenopodium album**	Lambsquarters	
Convolvulaceae	*Convolvulus arvensis**	Field bindweed	
Euphorbiaceae	*Chamaesyce maculata**	Spotted spurge	
Fabaceae	*Medicago polymorpha**	California bur-clover	
	Vicia sativa spp. *sativa**	Spring vetch	
Fagaceae	*Quercus agrifolia*	Coast live oak	
	Quercus lobata	Valley oak	
	*Quercus suber**	Cork oak	
Geraniaceae	*Erodium cicutarium**	Red-stem filaree	
	*Geranium dissectum**	Cut-leaf geranium	
Juglandaceae	*Juglans* sp.*	Walnut	
Malvaceae	*Malva parviflora**	Cheeseweed	
Oleaceae	*Olea europaea**	Olive	
Onagraceae	*Epilobium brachycarpum*	Annual fireweed	
	Epilobium ciliatum	Willow-herb	
Plantaginaceae	*Plantago coronopus**	Cut-leaf plantain	

	*Plantago lanceolata**	English plantain
Polygonaceae	*Polygonum arenastrum**	Common knotweed
	*Rumex crispus**	Curly dock
Portulacaceae	*Portulaca oleracea**	Common purslane
Rosaceae	*Prunus cerasifera**	Cherry plum
	*Prunus dulcis**	Almond
	*Pyracantha sp.**	Firethorn
Rubiaceae	*Galium aparine*	Common bedstraw
Section - Monocots		
Cyperaceae	*Cyperus eragrostis*	Tall flatsedge
Juncaceae	*Juncus balticus*	Baltic rush
Poaceae	*Avena fatua**	Wild oat
	*Bromus diandrus**	Rip-gut brome
	*Bromus hordeaceus**	Soft chess
	*Cynodon dactylon**	Bermuda grass
	*Digitaria sanguinalis**	Large crabgrass
	Festuca [*Lolium*] *perennis**	Perennial rye grass
	Festuca **[***Vulpia*] *myuros**	Rat-tail fescue
	Hordeum murinum ssp. *leporinum**	Hare barley
	*Phalaris aquatica**	Harding grass

ATTACHMENT 3
WETLAND DELINEATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Monterey Dynasty Property | City/County: Morgan Hill/Santa Clara | Sampling Date: 07/13/2011

Applicant/Owner: Ms. Bethany Liou | State: CA | Sampling Point: T-1a

Investigator(s): Christopher Bronny, Josh Goodwin | Section, Township, Range: _____

Landform (hillslope, terrace, etc.): upland | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): LRR C | Lat: 37 06' 30.78"N | Long: 121 38' 23.26"W | Datum: _____

Soil Map Unit Name: San Ysidro loam, 0-2% slopes | NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: **Discing up to the edge of this feature earlier in the season; recent residential development along the northwestern boundary has truncated upstream hydrologic inputs into this feature. Precipitation totals thus far in the 2010-2011 rainy season above-average; sample point taken outside mapped boundary of low-gradient swale.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Festuca perennis*	40	yes	FAC
2. *Vicia sativa*	5	no	UPL
3. *Convolvulus arvensis*	20	yes	UPL
4. *Cichorium intybus*	10	no	UPL
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
50% = _____, 20% = _____	75	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	

% Bare Ground in Herb Stratum 25 | % Cover of Biotic Crust _____

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	40	x3 =	120
FACU species	_____	x4 =	_____
UPL species	35	x5 =	175
Column Totals:	75 (A)		295 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

☐ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☐ No ☒**

Remarks: Mix of upland and hydrophytic species within sample area; Prevalence Index > 3.0.

Project Site: Monterey Dynasty Property

SOIL Sampling Point: T-1a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]		
0-5"	10YR2/2	100					Silty clay loam	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Claypan

Depth (Inches): 5"

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Absence of hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ____

Water Table Present? Yes ☐ No ☒ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): ____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Absence of hydrologic indicators.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Monterey Dynasty Property City/County: Morgan Hill/Santa Clara Sampling Date: 07/13/2011

Applicant/Owner: Ms. Bethany Liou State: CA Sampling Point: T-1b

Investigator(s): Christopher Bronny, Josh Goodwin Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): LRR C Lat: 37 06' 30.78"N Long: 121 38' 23.26"W Datum: _____

Soil Map Unit Name: San Ysidro loam, 0-2% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	
Hydric Soil Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☒ **No** ☐
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Discing up to the edge of this feature earlier in the season; recent residential development along the northwestern boundary has truncated upstream hydrologic inputs into this feature. Precipitation totals thus far in the 2010-2011 rainy season above-average; sample point taken inside mapped boundary of low-gradient swale.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Festuca perennis*	80	yes	FAC
2. *Convolvulus arvensis*	10	no	UPL
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
50% = _____, 20% = _____	90	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 10	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of :	Multiply by:
OBL species _____	x1 = _____
FACW species _____	x2 = _____
FAC species _____	x3 = _____
FACU species _____	x4 = _____
UPL species _____	x5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Nearly pure stand of Festuca within sample area.

Project Site: Monterey Dynasty Property

SOIL

Sampling Point: T-1b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]		
0-5"	10YR2/2	99	10YR3/6	1	C	M	Sandy clay loam	gravel inclusions

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel/claypan

Depth (Inches): 5"

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Presence of hydric soil indicators; mottles few/faint.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☒ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches): ____
Water Table Present?	Yes	☐	No	☒	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches): ____

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Presence of single primary and secondary hydrologic indicators.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Monterey Dynasty Property | City/County: Morgan Hill/Santa Clara | Sampling Date: 07/13/2011

Applicant/Owner: Ms. Bethany Liou | State: CA | Sampling Point: T-2a

Investigator(s): Christopher Bronny, Josh Goodwin | Section, Township, Range: _____

Landform (hillslope, terrace, etc.): upland | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): LRR C | Lat: 37 06' 30.78"N | Long: 121 38' 23.26"W | Datum: _____

Soil Map Unit Name: San Ysidro loam, 0-2% slopes | NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Hydric Soil Present?	Yes ☐	No ☒		
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: **Discing up to the edge of this feature earlier in the season; recent residential development along the northwestern boundary has truncated upstream hydrologic inputs into this feature. Precipitation totals thus far in the 2010-2011 rainy season above-average; sample point taken outside mapped boundary of low-gradient swale.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Festuca perennis*	10	no	FAC
2. *Bromus diandrus*	20	yes	UPL
3. *Convolvulus arvensis*	2	no	UPL
4. *Rumex crispus*	10	no	FACW
5. *Avena fatua*	20	yes	UPL
6. *Raphanus sativus*	5	no	UPL
7. _____			
8. _____			
50% = _____, 20% = _____	67	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 30	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of :	Multiply by:
OBL species _____	x1 = _____
FACW species _____	x2 = _____
FAC species _____	x3 = _____
FACU species _____	x4 = _____
UPL species _____	x5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☐ No ☒**

Remarks: Dominance exhibited by upland species/ some matted RDM (residual dry matter) within sample area.

Project Site: Monterey Dynasty Property

SOIL Sampling Point: T-2a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]		
0-5"	10YR4/4	100					Silty clay loam	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Claypan

Depth (Inches): 5"

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Absence of hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): ____

Water Table Present? Yes ☐ No ☒ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): ____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Absence of hydrologic indicators.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Monterey Dynasty Property City/County: Morgan Hill/Santa Clara Sampling Date: 07/13/2011

Applicant/Owner: Ms. Bethany Liou State: CA Sampling Point: T-2b

Investigator(s): Christopher Bronny, Josh Goodwin Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): LRR C Lat: 37 06' 30.78"N Long: 121 38' 23.26"W Datum: _____

Soil Map Unit Name: San Ysidro loam, 0-2% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	
Hydric Soil Present?	Yes	☒	No	☐	**Is the Sampled Area within a Wetland?** **Yes** ☒ **No** ☐
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks: **Discing up to the edge of this feature earlier in the season; recent residential development along the northwestern boundary has truncated upstream hydrologic inputs into this feature. Precipitation totals thus far in the 2010-2011 rainy season above-average; sample point taken inside mapped boundary of low-gradient swale.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Festuca perennis*	60	yes	FAC
2. *Convolvulus arvensis*	2	no	UPL
3. *Plantago lanceolata*	5	no	FAC
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
50% = _____, 20% = _____	90	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 10	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Nearly pure stand of Festuca/presence of RDM (residual dry matter) within sample area.

Project Site: Monterey Dynasty Property

SOIL

Sampling Point: T-2b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]		
0-5"	10YR3/6	99	10YR4/6	1	C	M	Sandy clay loam	gravel inclusions

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel/claypan

Depth (Inches): 5"

Hydric Soils Present? **Yes** ☒ **No** ☐

Remarks: Presence of hydric soil indicators; mottles few/faint.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☒ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches): ____
Water Table Present?	Yes	☐	No	☒	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches): ____

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Presence of single primary and secondary hydrologic indicators.

ATTACHMENT 4
SITE PHOTOGRAPHS

Photograph 1. Representative photograph of Property, facing southwest towards abandoned residence. Note prevalence of chicory, wild radish, and other species associated with ruderal habitats.

Photograph 2. Photograph showing the low-gradient swale that bisects the Property along a northwest-to-southeast axis. Slightly deeper portions support small stands of obligate hydrophytes, such as California tule.

ATTACHMENT 5
SOILS DATA

SAN YSIDRO SERIES

The San Ysidro series consists of deep, moderately well drained soils that formed in alluvium from sedimentary rocks. San Ysidro soils are on old, low terraces and have slopes of 0 to 9 percent. The mean annual precipitation is about 20 inches and the mean annual air temperature is about 59 degrees F.

TAXONOMIC CLASS: Fine, smectitic, thermic Typic Palexeralfs

TYPICAL PEDON: San Ysidro fine sandy loam, cultivated field. (Colors are for dry soil unless otherwise noted.)

Ap--0 to 7 inches; light brownish gray (10YR 6/2) fine sandy loam, dark brown (10YR 4/3) moist; few fine distinct mottles of brownish yellow (10YR 6/6); massive; hard, friable, nonsticky and slightly plastic; many very fine, common fine and medium roots; common very fine tubular and interstitial pores; slightly acid (pH 6.5); clear smooth boundary. (5 to 10 inches thick)

A--7 to 14 inches; light brownish gray (10YR 6/2) fine sandy loam, dark brown (10YR 3/3) moist; few fine distinct mottles of brownish yellow (10YR 6/6); massive; hard, friable, nonsticky and slightly plastic; many very fine, common fine and medium roots; common very fine tubular pores; medium acid (pH 6.0); abrupt smooth boundary. (7 to 20 inches thick)

Bt1--14 to 28 inches; dark yellowish brown (10YR 4/4) clay, dark brown (7.5YR 4/4) moist; a thin 1/4 inch bleached layer, light gray (10YR 7/2), light brownish gray (10YR 6/2) moist, rests immediately on top of the prisms; strong coarse prismatic structure; extremely hard, very firm, sticky and plastic; few very fine and fine roots along ped faces; common very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; common fine iron and manganese concretions; slightly acid (pH 6.5); gradual smooth boundary. (10 to 15 inches thick)

Bt2--28 to 40 inches; yellowish brown (10YR 5/6) sandy clay loam, dark yellowish brown (10YR 4/4) moist, dark brown (7.5YR 4/4) coatings moist; strong medium prismatic structure; extremely hard, very firm, sticky and plastic; few very fine and fine exped roots; common very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; common fine iron and manganese concretions; neutral (pH 7.0); gradual smooth boundary. (10 to 14 inches thick)

C1--40 to 54 inches; yellowish brown (10YR 5/4) light sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium prismatic structure; extremely hard, very firm, sticky and plastic; few very fine exped roots; common very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; common iron and manganese concretions; neutral (pH 7.0); gradual wavy boundary. (10 to 15 inches thick)

C2--54 to 68 inches; yellowish brown (10YR 6/4) light clay loam, dark yellowish brown (10YR 4/4) moist, brown (7.5YR 4/4) coatings moist; strong medium prismatic structure; hard, firm, sticky and plastic; few very fine exped roots; common very fine tubular pores; continuous moderately thick clay films on faces of peds and lining pores; moderately alkaline (pH 8.0).

TYPE LOCATION: Solano County, California; approximately 3.5 miles west and 1 mile south of the town of Dixon; approximately 300 yards south and 100 yards west of northeast corner of NW 1/4 sec. 29, T.7N., R.1E. 38 degrees North latitude, 25 minutes, 45 seconds, 121 degrees West longitude, 53 minutes, 16 seconds.

RANGE IN CHARACTERISTICS: The mean annual soil temperature is about 60 degrees to 65 degrees F. The soil is usually moist in some or all parts between depths of 5 and 15 inches from late November or early December until May. The soil usually is dry all the rest of the time.

The Ap horizon is light brownish gray or pale brown in 10YR hue. It is sandy loam, fine sandy loam, or loam. This horizon is medium acid to neutral.

The A horizon is up to 6 inches thick and is present in some pedons or there is a thin layer of bleached grains just above the Bt horizon. Fine yellowish or brownish mottles are present in some pedons in part of the Ap horizon and A horizon where present.

The Bt horizon is brown, light brown, very pale brown, yellowish brown, dark yellowish brown, light yellowish brown or brownish yellow in hue 10YR or 7.5YR. It is heavy clay loam or clay and has about 35 to 45 percent clay in at least the upper part and moderate to strong angular blocky structure in the

lower part. Some pedons have columnar structure. The Bt horizon is slightly acid to moderately alkaline and increases in alkalinity with increasing depth. Exchangeable sodium is less than 15 percent.
The C horizon is pale brown, light yellowish or yellowish brown. It is somewhat stratified and ranges from sandy loam to silty clay loam. This horizon is mildly or moderately alkaline and has small amounts of segregated lime in some pedons.
COMPETING SERIES: These are the Hillgate series in this family and the Antioch, Cometa, Corning, Millsap, Newville, Positas, and Tierra series in other families. Hillgate soils lack a subsurface A horizon and lack mottles in the Ap horizon. Antioch soils have more than 15 percent exchangeable sodium in all parts of the B2t horizon. Cometa soils have hue of 7.5YR or 5YR in the B2t horizon. Corning soils have hue of 5YR through 2.5YR in the Bt horizon and are strongly acid throughout. Millsap soils have a lithic contact. Newville soils lack A2 horizons, are gravelly throughout with very gravelly C horizons. Positas and Tierra soils have dark A1 horizons with moist value of 2 or 3.
GEOGRAPHIC SETTING: San Ysidro soils are on old low terraces at elevations of less than 1,500 feet. Gradient is 0 to 9 percent. They formed in alluvium from sedimentary rocks. The climate is dry subhumid mesothermic with hot dry summers and cool moist winters. Mean annual precipitation is 12 to 25 inches, average January temperature is about 46 degrees F., and average July temperature is about 76 degrees F., and mean annual temperature is 58 degrees to 60 degrees F. Average frost-free season is 200 to 300 days.
GEOGRAPHICALLY ASSOCIATED SOILS: These are the Antioch, Capay, Hillgate, Pescadero, Pleasanton, and solano soils. Capay soils lack argillic horizons and have slickensides. Pescadero soils are on slightly lower terraces and have more than 15 percent ESP. Pleasanton soils have less than 35 percent clay and lack an abrupt A-B horizon boundary. Solano soils have more than 15 percent ESP and have natric horizons.
DRAINAGE AND PERMEABILITY: Moderately well drained; slow to medium runoff; very slow permeability.
USE AND VEGETATION: Used for growing dryland grains, dryland pasture, and shallow rooted row crops, and pasture under irrigation. Uncultivated areas have a cover of annual grasses and forbs.
DISTRIBUTION AND EXTENT: Foothills and valleys of the Coast Range of central California. The soils are moderately extensive.
MLRA OFFICE RESPONSIBLE: Davis, California
SERIES ESTABLISHED: Gilroy Area, California, 1923.
OSED scanned by SSQA. Last revised by state on 3/77.
REMARKS: San Ysidro needs to be recompeted with Hillgate during MLRA update. Hillgate is the same as San Ysdiro but is mapped on slopes 0-50%. The 0-9% Hillgate map units should be correlated to San Ysidro and Hillgate set up for the 9-50% slope map units.
ADDITIONAL DATA: NSSL pedon S64CA-095-001 (type location but data shows the pedon to be Mollic Haploxeralf, fine-loamy, mixed, active, thermic)